A. CLASSIFICATION OF SUBJECT AND ADDRESS OF S

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G11B19/28 G11B19/26 G11B7/095

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

| Category ° | Citation of decomment with bull and a substitution of the substitu | | |
|--|--|--|---|
| | Citation of document, with indication, where appropriate, of the | elevant passages | Relevant to claim No |
| × | US 6 009 053 A (KODANI KIYOSHI 28 December 1999 (1999-12-28) the whole document | ET AL) | 1,2, 8-10,15, 16 |
| X | EP 1 049 086 A (LG ELECTRONICS : 2 November 2000 (2000-11-02) the whole document | 1,3,8,9, 11,15,16 | |
| X | US 6 377 527 B1 (HIRASHIMA MINOR 23 April 2002 (2002-04-23) the whole document | RU) | 1,3,8,9, 15,16 |
| | | -/- - | |
| | ner documents are listed in the continuation of box C. | | |
| X Furt | | X Patent family members are listed | in annex. |
| Special ca "A" docume consid "E" earlier of filing of "L" docume which citatio "O" docume other i | tegories of cited documents: ant defining the general state of the art which is not lered to be of particular relevance document but published on or after the international late at least which may throw doubts on priority claim(s) or is cited to establish the publication date of another no rother special reason (as specified) ant referring to an oral disclosure, use, exhibition or | "T" later document published after the inte or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the cannot be considered novel or cannot involve an inventive step when the do "Y" document of particular relevance; the cannot be considered to involve an involve a | mational filing date the application but eary underlying the laimed invention be considered to current is taken alone laimed invention lentive step when the re other such docu- is to a person skilled |
| "A" docume consider if iling of the citation of citation of the citation of the citation of the citation of th | ant defining the general state of the art which is not lered to be of particular relevance document but published on or after the international late art which may throw doubts on priority claim(s) or is cited to establish the publication date of another in or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means | "T" later document published after the inte or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the c cannot be considered novel or cannot involve an inventive step when the document of particular relevance; the c cannot be considered to involve an involve an inventive step when the document is combined with one or mo ments, such combination being obvious in the art. | mational filing date the application but early underlying the laimed invention be considered to cument is taken alone laimed invention rentive step when the re other such docu- is to a person skilled |
| Special ca "A" docume consid "E" earlier of filing of "L" docume which citatio "O" docume other of later th | ent defining the general state of the art which is not lered to be of particular relevance document but published on or after the international late at which may throw doubts on priority claim(s) or is cited to establish the publication date of another nor other special reason (as specified) ent referring to an oral disclosure, use, exhibition or means ant published prior to the international filing date but man the priority date claimed | "T" later document published after the inte or priority date and not in conflict with cited to understand the principle or the invention "X" document of particular relevance; the considered novel or cannot be considered novel or cannot involve an inventive step when the document of particular relevance; the considered to involve an inventive step when the document is combined with one or moments, such combination being obvious in the art. "&" document member of the same patent." | mational filing date the application but early underlying the laimed invention be considered to cument is taken alone laimed invention rentive step when the re other such docu- is to a person skilled |

INTERNATIONAL SEARCH REPORT

| \ | |
|----------|----------|
| /IB | 03/03194 |

| ation) DOCUMENTS CONSIDERED TO BE RELEVANT | |
|--|---|
| | Relevant to claim No. |
| PATENT ABSTRACTS OF JAPAN vol. 1998, no. 09, 31 July 1998 (1998-07-31) & JP 10 092095 A (OPT KK), 10 April 1998 (1998-04-10) abstract | 1,8,9,15 |
| PATENT ABSTRACTS OF JAPAN vol. 2000, no. 02, 29 February 2000 (2000-02-29) & JP 11 328830 A (KONICA CORP), 30 November 1999 (1999-11-30) abstract | 1,8,9,15 |
| PATENT ABSTRACTS OF JAPAN vol. 2000, no. 15, 6 April 2001 (2001-04-06) & JP 2000 348428 A (MATSUSHITA ELECTRIC IND CO LTD), 15 December 2000 (2000-12-15) abstract | 1 |
| US 5 959 952 A (WAKUDA HIROSHI) 28 September 1999 (1999-09-28) the whole document | 1,3-6,9, 11-14 |
| EP 0 325 434 A (FUJITSU LTD) 26 July 1989 (1989-07-26) the whole document | 1,3-6,9, 11-14 |
| US 5 487 055 A (SUZUKI HARUYUKI) 23 January 1996 (1996-01-23) the whole document | 1,3-6,9, 11-14 |
| | |
| | PATENT ABSTRACTS OF JAPAN vol. 1998, no. 09, 31 July 1998 (1998-07-31) & JP 10 092095 A (OPT KK), 10 April 1998 (1998-04-10) abstract PATENT ABSTRACTS OF JAPAN vol. 2000, no. 02, 29 February 2000 (2000-02-29) & JP 11 328830 A (KONICA CORP), 30 November 1999 (1999-11-30) abstract PATENT ABSTRACTS OF JAPAN vol. 2000, no. 15, 6 April 2001 (2001-04-06) & JP 2000 348428 A (MATSUSHITA ELECTRIC IND CO LTD), 15 December 2000 (2000-12-15) abstract US 5 959 952 A (WAKUDA HIROSHI) 28 September 1999 (1999-09-28) the whole document EP 0 325 434 A (FUJITSU LTD) 26 July 1989 (1989-07-26) the whole document US 5 487 055 A (SUZUKI HARUYUKI) 23 January 1996 (1996-01-23) |

INTERMINONAL SEARCH REPORT

| /IB | 03/03194 |
|-----|----------|

| Patent document cited in search report | t | Publication date | | Patent family member(s) | | Publication date |
|--|-----|---------------------|--|---|---------------------------------------|--|
| US 6009053 | | 28-12-1999 | US JP JP US | 6081491 3316416 10124993 5886966 | B2 A | 27-06-2000 19-08-2002 15-05-1998 23-03-1999 |
| EP 1049086 | A | 02-11-2000 | KR EP | 2000061687 1049086 | | 25-10-2000 02-11-2000 |
| US 6377527 | B1 | 23-04-2002 | JP CN | 2000207824 1259727 | | 28-07-2000 12-07-2000 |
| JP 10092095 | Α | 10-04-1998 | NONE | | | · · · · · · · · · · · · · · · · · · · |
| JP 11328830 | A | 30-11-1999 | NONE | | | |
| JP 200034842 | 8 A | 15-12-2000 | NONE | | | · |
| US 5959952 | A | 28-09-1999 | NONE | | | |
| EP 0325434 | Α | 26-07-1989 | JP JP JP DE DE EP KR US | 1184732 2680589 1189036 2711103 68918714 68918714 0325434 9106669 4985882 | B2 A B2 D1 T2 A2 B1 | 24-07-1989 19-11-1997 28-07-1989 10-02-1998 17-11-1994 16-02-1995 26-07-1989 30-08-1991 15-01-1991 |
| US 5487055 | Α | 23-01-1996 | JP | 6243485 | | 02-09-1994 |